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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,037	02/20/2004	Kinya Ozawa	9319S-406DVA	1669
27572	7590	09/11/2006	EXAMINER	
HARNESS, DICKY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			RUDE, TIMOTHY L	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/784,037

Applicant(s)

OZAWA ET AL.

Examiner

Timothy L. Rude

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/255,121.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060710</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of species D in the reply filed on 16 June 2006 is acknowledged. The traversal is on the ground(s) that there would be no burden on the examiner. This is not found persuasive because only some overlap in search would exist. Any determination as to allowable subject matter in the elected species would not serve to confirm allowable subject matter for the limitations of any of the non-elected species. Therefore, much additional search would be required for each of the non-elected species.

The requirement is still deemed proper and is therefore made FINAL.

Claims 4 and 5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Please note claim 4 limits to structure that is mutually exclusive to elected species D (see Figure 6B). Applicant timely traversed the restriction (election) requirement in the reply filed on 16 June 2006.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a) because they fail to show a two reflective regions per Figures 1C, 3B, and 6B.

All plan views should be consistent with the A-A and B-B sectional views. It is beyond the scope of examiner's duties to lead Applicant to exhaustive detailed drawing

corrections. It is respectfully suggested a qualified drafts person make all the drawings proper in this Application and in all related pending Applications.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 1 and 18 are objected to because of the following informalities:

Claim 1 limits to a light-reflecting layer overlapping the reflective display region. Applicant has not enabled a display with reflective layers that overlap the reflective display region, and such would render the reflective regions inoperative (reflect all the time – no switching).

For examination purposes, the light reflective layer will be considered to be layer, 4, in Figure 6(B).

Appropriate correction is required.

Claim 18 limits to a shading film on the second substrate that overlaps the first substrate transition region in the thickness direction. This is considered impossible, as the shading film would need to be on the second substrate and under the sloped region of the thickness adjusting layer in order to overlap in a thickness direction.

For examination purposes the shading film will be considered to be film, 9, in Figure 6(B).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

Claims 1-3 and 6-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has disclosed an active matrix type pixilated display that requires pixel electrodes (see Abstract). Applicant may not claim so broadly as to read on devices that do not have pixel electrodes because Applicant

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has no written description and no enablement for display devices without pixel electrodes. Please understand this is not a trivial issue, for pixilated liquid crystal displays without pixel electrodes would be very substantially, patentably, distinct.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

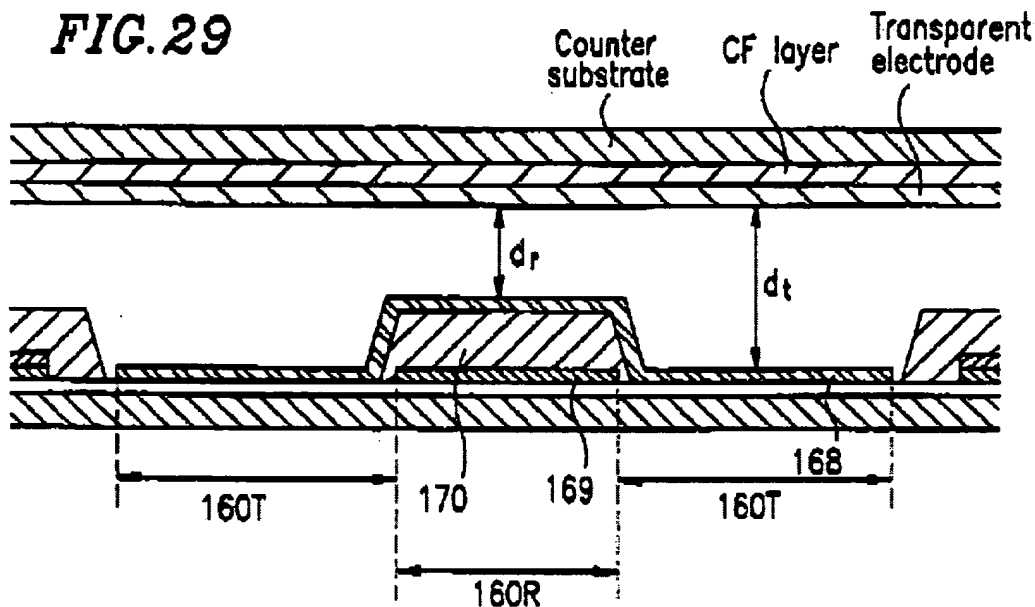
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 7-9, 11, 14-17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al (Kubo) USPAT 6,195,140 B1.

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As to claims 1, 2, 8-9, 11, 15-17, and 18, Kubo discloses a transfective liquid crystal device [electronic apparatus, TFTs] comprising:

a first substrate [bottom];



a second substrate [top]; and a liquid crystal layer held between the first substrate and the second substrate, wherein the first substrate includes:

a light-reflecting layer, 169, overlapping reflective display regions in plan view in pixel regions and in a non-overlapping condition with transmissive display regions in the regions of the pixel regions other than the reflective display regions; and

a thickness-adjusting layer, 170, setting the thickness of the liquid crystal layer in the reflective display regions to be smaller than the thickness of the liquid crystal layer in the transmissive display regions; and

slopes are formed in the thickness-adjusting layer at a transition between each reflective display region and transmissive display region; and

edges of the light-reflecting layer adjacent the transmissive display regions are substantially aligned with bottom edges of the slopes of the thickness-adjusting layer [steep slope so reads on substantially aligned per Figure 29].

Kubo does not explicitly disclose that the second substrate of this device includes a shading film.

Kubo teaches that a black matrix is conventional for such displays [conventional black matrix are on the substrate opposite the reflective substrate] and that reduction or elimination of said black matrix is optional [col. 12, lines 36-46] to improve display brightness.

Kubo is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to have a conventional black matrix that may be reduced or eliminated to improve display brightness.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kubo with the conventional black matrix that is reduced in size to improve display brightness.

As to claims 7 and 14, Kubo discloses a transfective liquid crystal device according to Claims 1 and 9.

Kubo does not explicitly disclose a device wherein a twist angle of liquid crystal in the liquid crystal layer is  $90^\circ$  or less.



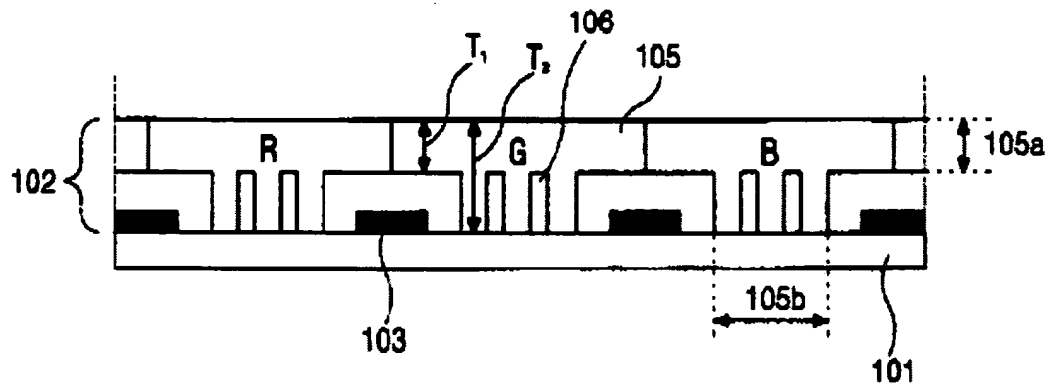
Examiner takes official notice that a twist angle of liquid crystal in the liquid crystal layer of 90° or less is very common in the art of liquid crystal displays as a twisted nematic configuration suitable for the purpose of forming a pixilated display.

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo in view of Kim et al (Kim) USPAT 6,522,377.

As to claims 3 and 12, Kubo discloses a transfective liquid crystal device according to Claims 1 and 9.

Kubo does not explicitly disclose a device further comprising reflective-display color filters in the reflective display regions and transmissive-display color filters, which are colored more strongly than the reflective-display color filters, in the transmissive display regions.

Kim teaches the use of reflective-display color filters in the reflective display regions and transmissive-display color filters [col. 8, lines 5-25], which are colored more strongly than the reflective-display color filters, in the transmissive display regions [strength of color is set by thickness and by presence of non-colored material 106] to avoid an unwanted difference in color purity between the reflective and transmissive portions of the display [col. 4, lines 1-20].



**FIG. 5D**

Kim is evidence that workers of ordinary skill in the art would find the reason, suggestion, or motivation to add of reflective-display color filters in the reflective display regions and transmissive-display color filters, which are colored more strongly than the reflective-display color filters, in the transmissive display regions to avoid an unwanted difference in color purity between the reflective and transmissive portions of the display.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kubo with the reflective-display color filters in the reflective display regions and transmissive-display color filters, which are colored more strongly than the reflective-display color filters, in the transmissive display regions of Kim to avoid an unwanted difference in color purity between the reflective and transmissive portions of the display.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Mon-Thurs.

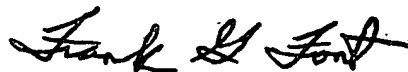
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



tlr

Timothy L Rude  
Examiner  
Art Unit 2871



Frank G. Font  
Supervisory Patent Examiner  
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